

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



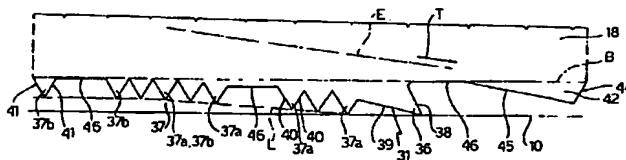
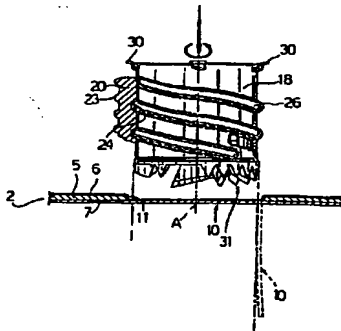
(43) International Publication Date
18 March 2004 (18.03.2004)

PCT

(10) International Publication Number
WO 2004/022437 A3

- (51) International Patent Classification⁷: **B65D 5/74**
- (21) International Application Number:
PCT/EP2003/050614
- (22) International Filing Date:
8 September 2003 (08.09.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
02425553.1 9 September 2002 (09.09.2002) EP
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- (71) Applicant (*for all designated States except US*): **TETRA LAVAL HOLDINGS & FINANCE SA [CH/CH]**; Avenue Général-Guisan, 70, CH-1009 PULLY (CH).
- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): **CASALE, Cristiano [IT/IT]**; Via Fellini, 3, I-41057 SPILAMBERTO (IT). **DE SIMONI, Sara [IT/IT]**; Via Maestri del Lavoro, 81, I-41100 MODENA (IT).
- (74) Agents: **JORIO, Paolo et al.**; STUDIO TORTA S.r.l., Via Viotti, 9, I-10121 TORINO (IT).
- Published:**
— with international search report
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- (88) Date of publication of the international search report:
22 April 2004
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: CLOSABLE OPENING DEVICE FOR PACKAGES OF POURABLE FOOD PRODUCTS



(57) **Abstract:** A closable opening device (4) having a frame (15) defining a through hole (16) and fitted about a pierceable portion (10) of a sealed package (1) for pourable food products; a removable threaded cap (17) which screws onto the frame (15) to close the hole (16); and a tubular cutting member (18) screwed inside the hole (16) and rotated by the cap (17) to travel through the pierceable portion. The cutting member (18) has an end cutting edge (31), in turn having a main blade (36), and a number of teeth (37a) located behind the main blade (36) and decreasing gradually in height so as to act successively on the pierceable portion (10).

WO 2004/022437 A3